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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/743,745	12/24/2003	Shigekazu Yasuoka	SNY-048	9090

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EXAMINER	
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ART UNIT	**PAPER NUMBER**
1742	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/743,745	YASUOKA ET AL.	
	Examiner	Art Unit	
	Jessee Roe	1742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 July 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-25* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-25* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 20 July 2007 has been entered.

Status of the Claims

Claims 1-25 are pending wherein claims 1, 5-9, 13 and 17-20 are amended.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Kaneko (US 5,964,968).

In regards to claims 1, Kaneko ('968) discloses a hydrogen absorbing alloy that would be used for a battery with a formula of the form $La_{0.23}Ce_{0.46}Pr_{0.05}Nd_{0.18}Mg_{0.08}Ni_{3.38}Al_{0.19}Co_{0.5}Mn_{0.47}Fe_{0.02}$ (abstract and col. 6, lines 25-32

and 48-49), wherein 1-x, in the formula $Ln_{1-x}Mg_xNi_{y-a}Al_a$ (sum of subscripts of La, Ce, Pr and Nd) = 0.92; x = 0.08 (subscript of Mg); a = 0.19 (subscript of Al); y-a = 3.38 (subscript of Ni); and therefore y = 3.57, which would be within the limitations of $0.05 \leq x < 0.20$, $2.8 \leq y \leq 3.9$, and $0.10 \leq a \leq 0.25$ and the mole ratio of lanthanum/total rare earth elements would be 0.23:0.92 or 0.25 which satisfies the limitation of being not greater than 0.5. The alloy would be used as the anode (negative electrode) in a battery (col. 4, line 58 – col. 5, line 30).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-4, 9-16 and 21-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kaneko (US 5,964,968).

In regards to claims 1-4 and 13-16, Kaneko ('968) discloses a hydrogen absorbing alloy of the form $(R_{1-x}L_x)(Ni_{1-y}M_y)_z$, where R stands for the elements La, Ce, Pr, Nd, or mixtures thereof; L stands for Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu, Y, Sc, Mg, Ca, or mixtures thereof; M stands for Co, Al, Mn, Fe, Cu, Zr, Ti, Mo, Si, V, Cr, Nb, Hf, Ta, W, B, C, or mixtures thereof; and x, y, and z satisfy the formulae of $0.01 \leq x \leq 0.1$, $0 \leq y \leq 0.5$, and $4.5 \leq z \leq 5.0$. The hydrogen storage alloy would be used as the anode

(negative electrode) in a battery (col. 3, lines 28-48). The battery would be composed of an electrolytic solution (alkaline) (col. 3, lines 10-20 and Example I) and would inherently be comprised of a cathode (positive electrode).

With respect to the recitation "a mole ratio of La in said at least one element selected from rare earth elements is not greater than 0.5", it is well settled that there is no invention in the discovery of a general formula if it covers a composition described in the prior art, In re Cooper and Foley 1943 C.D. 357, 553 O.G. 177; 57 USPQ 117, Taklatwalla v. Marburg, 620 O.G. 685, 1949 C.D. 77, and In re Pilling, 403 O.G. 513, 44 F(2) 878, 1931 C.D. 75. In absence of evidence to the contrary, the selection of the proportions of elements would appear to require no more than routine investigation by those of ordinary skill in the art. In re Austin, et al., 149 USPQ 685, 688. It would have been obvious to one of ordinary skill in the art to select the desired amounts of lanthanum and other rare earth elements from the ranges disclosed by Kaneko ('968) such that the ratio would be satisfied because Kaneko ('968) discloses the same utility (hydrogen storage alloy) throughout the disclosed ranges.

In regards to claims 9-12 and 21-24, Kaneko ('968) discloses a hydrogen absorbing alloy that would be used in a battery wherein the average particle size would be in the range of 20 to 100 μm (col. 9, lines 1-17 and Example I), which overlaps the claimed average particle size of the instant invention, which is a prima facie case of obviousness. See MPEP 2144.05 I. It would have been obvious to one of ordinary skill in the art at the time the invention was made to select the claimed particle size from the particle size disclosed by Kaneko ('968) because Kaneko ('968) discloses the same

utility throughout the disclosed ranges.

Claims 5-8 and 17-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kaneko (US 5,964,968) as applied to claims 1-4 and 13-16 above, and further in view of Chartouni et al. (The influence of cobalt on the electrochemical cycling stability of $LaNi_5$-based hydride forming alloys).

In regards to claims 5-8 and 17-20, Kaneko ('968) discloses a hydrogen absorbing alloy as shown above, but Kaneko ('968) does not specify that the part of the nickel would be replaced with at least one of V, Nb, Ta, Cr, Mo, Mn, Fe, Co, Ga, Zn, Sn, In, Cu, Si, P, and B.

Chartouni et al. discloses that the partial replacement of Ni by Co (especially in the presence of Al) would improve the cycling ability (pg. 165, col. 1).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the hydrogen storage alloy, as disclosed by Kaneko ('968) by performing a partial replacement of Ni by Co, as disclosed by Chartouni et al., in order to improve the cycling ability, as disclosed by Chartouni et al. (pg. 165, col. 1).

Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kaneko (US 5,964,968), as applied to claim 13 above, and further in view of Newman et al. (5,283,139).

In regards to claim 25, Kaneko ('968) discloses a hydrogen absorbing alloy that would be used in a battery as shown above, but Kaneko ('968) does not specify wherein the amount of alkaline electrolyte would be 0.31 ml or less

per gram of the hydrogen absorbing alloy.

Newman et al. ('139) disclose, in the same field of endeavor, wherein a reducing the amount of electrolyte in a battery would effectively increase the density and this increase in density would yield a higher battery discharge and increase overall cell performance (col. 3, lines 7-68).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to reduce the electrolyte volume, as disclosed by Newman et al. ('139), when using a hydrogen absorbing alloy in a battery, as disclosed by Kaneko ('968), in order to effect a higher battery discharge and increase overall cell performance because increasing the effective density (by reducing the electrolyte) would be a result-effective variable in achieving a desired battery discharge, as disclosed by Newman et al. ('139) (col. 3, lines 7-68). See MPEP 2144.05 II.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1, 5-8, 13, and 17-20 are provisionally rejected on the ground of nonstatutory double patenting over claims 1-2, 7-8, 13-14 and 17-18 of copending Application No. 11/041678. This is a provisional double patenting rejection since the conflicting claims have not yet been patented.

The subject matter claimed in the instant application is fully disclosed in the referenced copending application and would be covered by any patent granted on that copending application since the referenced copending application and the instant application are claiming common subject matter, as follows:

Claims 7 and 8 of copending Application No. 11/041678 discloses an $Ln_{1-x}Mg_xNi_{y-a}Al_a$ hydrogen absorbing alloy wherein Ln is at least one element selected from rare-earth elements, and x, y, and a satisfy $0.15 \leq x \leq 0.25$, $3.0 \leq y \leq 3.6$, and $0 < a \leq 0.30$. This composition overlaps the composition of claim 1 of the instant invention which claims: $Ln_{1-x}Mg_xNi_{y-a}Al_a$ hydrogen absorbing alloy wherein Ln is at least one element selected from rare-earth elements, and x, y, and a satisfy $0.05 \leq x \leq 0.20$, $2.8 \leq y < 3.9$, and $0.10 \leq a \leq 0.25$. With respect to the recitation "when said at least one element selected from rare earth elements includes La,", the presence of La would be optional. See MPEP 2111.04. The Examiner asserts that the properties

of the hydrogen absorbing alloy of claims 1-2 of copending Application No. 11/041678 would inherently be found in the hydrogen storage alloy of the claim 1 of the instant invention because the composition of the hydrogen storage alloy of the instant invention overlaps the composition as claimed in claim 7 of copending Application No. 11/041678.

Claims 5, 6, 11-12 and 17-18 of copending Application No. 11/041678 disclose an alkaline battery comprising a positive electrode, a negative electrode using a hydrogen-absorbing alloy, and an alkaline electrolyte solution. This overlaps in scope with claim 13 of the instant invention which claims an alkaline storage battery comprising a positive electrode, a negative electrode comprising a hydrogen absorbing alloy, and an alkaline electrolyte.

Claims 13-14 of copending Application No. 11/041678 disclose substituting a portion of Ni with at least one element selected from the group consisting of V, Nb, Ta, Cr, Mo, Mn, Fe, Co, Ga, Zn, Sn, In, Cu, Si, P, and B. This overlaps in scope with claims 5-8 and 17-20 which claim replacing nickel in part with at least one element selected from V, Nb, Ta, Cr, Mo, Mn, Fe, Co, Ga, Zn, Sn, In, Cu, Si, P, and B.

Furthermore, there is no apparent reason why applicant would be prevented from presenting claims corresponding to those of the instant application in the other copending application. See *In re Schneller*, 397 F.2d 350, 158 USPQ 210 (CCPA 1968). See also MPEP § 804.

Response to Arguments

Applicant's arguments filed 28 June 2007 have been fully considered but are not persuasive.

First, in response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., a crystalline structure of the AB_3 or $AB_{3.5}$ type) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Second, in response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., the amounts of Co, Mn and Fe contained in the alloy) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jessee Roe whose telephone number is (571) 272-5938. The examiner can normally be reached on Monday-Friday 7:30 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dr. Roy V. King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JR

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